

REMARKS

Applicant thanks the Examiner for the very thorough consideration given the present application. Claims 1-9 are currently pending in this application. Claims 1-4 have been withdrawn. No new matter has been added by way of the present amendment. For instance, the amendment to claim 5 finds support at, for example, paragraphs [0010], [0013], [0047], [0049] and [0055] in the Specification. The amendment to claim 6 is supported by, for example, paragraphs [0010], [0054] and [0055]. New claim 8 is supported by par. [0037], whereas new claim 9 finds support at par. [0038]. Accordingly, no new matter has been added.

In view of the amendments and remarks herein, Applicant respectfully requests that the Examiner withdraw all outstanding rejections and allow the currently pending claims.

Issues Under 35 U.S.C. § 112, second paragraph

Claims 5-6 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. Applicant respectfully traverses.

The claims have been amended to address the issues identified by the Examiner. Accordingly, this rejection is moot.

Reconsideration and withdrawal of this rejection are thus respectfully requested.

Issues under 35 U.S.C. 103(a)

Claims 5-7 stand rejected under 35 U.S.C. 103(a) as being obvious over Worm (U.S. 2003/0047202) (hereinafter “Worm”) in view of Sajoto et al. (U.S. 6,527,865) (hereinafter “Sajoto”). Applicant respectfully traverses.

The Examiner asserts that Worm implicitly teaches a supercritical treatment apparatus, comprising a sealable raw-material vessel, a high-pressure vessel, a liquid pump, and a mechanism for pressure-sending the solution from the sealable raw-material vessel into a solution-feeding pump. The Examiner acknowledges that Worm fails to teach an O-ring made from Teflon, a metal gasket or a metal O-ring. The Examiner relies on Sajoto to cure the deficiencies of Worm.

Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). “[T]he examiner bears the initial burden, on review of the prior art or on any other ground, of presenting a *prima facie* case of unpatentability.” *In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992). A patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. *KSR Int’l Co. v. Teleflex Inc.*, 82 USPQ 2d 1385 (U.S. 2007). There must be a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does. *Id.* The Supreme Court of the United States has recently held that the “teaching, suggestion, motivation test” is a valid test for obviousness, albeit one which cannot be too rigidly applied. *Id.* “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements;

instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id.* (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

As amended, the present invention is directed, *inter alia*, to a supercritical reacting apparatus, comprising:

(a) at least one sealable raw-material vessel sealed with a polytetrafluoroethylene O-ring, into which a solution containing at least one organometallic compound dissolved in a fluorinated compound is introduced under normal pressure;

(b) a supercritical-fluid storing high-pressure vessel for a pressurized solution, said supercritical-fluid storing high-pressure vessel comprising a metal gasket, a metal O-ring or a polytetrafluoroethylene O-ring, wherein the pressurized solution comprises a supercritical fluid and a solution introduced from the sealable raw-material vessel;

(c) a pump mechanism for pressure-sending and introducing the pressurized solution from the raw-material vessel into the supercritical-fluid storing high-pressure vessel; and

(d) a supercritical reaction tank wherein a supercritical reaction of the solution containing at least one organometallic compound dissolved in a fluorinated compound occurs.

See, e.g., claims 5 and 6. Applicant respectfully submits that the cited references fail to teach or suggest a supercritical reacting apparatus as presently claimed.

Worm discloses a pressure chamber assembly for processing a substrate, comprising a pressure vessel defining an enclosed pressure chamber, a substrate holder, a drive assembly and a drive unit (see Abstract). Worm further discloses a method for cleaning a microelectronic substrate by using said pressure chamber (see [0004]-[0014]).

However, Worm does not teach or suggest a supercritical reacting apparatus as claimed, comprising at least one sealable raw-material vessel sealed with a polytetrafluoroethylene O-

ring, into which a solution containing at least one organometallic compound dissolved in a fluorinated compound is introduced under normal pressure, and further comprising a supercritical-fluid storing high-pressure vessel for a pressurized solution, and a supercritical reaction tank wherein a supercritical reaction of the solution containing at least one organometallic compound dissolved in a fluorinated compound occurs. Moreover, Worm does not teach or suggest the formation of a coating of a film of a reaction product, or the formation of metallic solid fine particles of a reaction product by the supercritical reaction taking place in the supercritical reaction tank. Sajoto fails to cure the deficiencies of Worm, as it also fails to teach or suggest a supercritical reacting apparatus as claimed.

Because the invention, as set forth in Applicants' claims, is not disclosed or made obvious by the cited prior art, reconsideration and withdrawal of this rejection are respectfully requested.

Conclusion

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and objections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action and, as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Vanessa Perez-Ramos, Registration No. 61158 at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

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Respectfully submitted,

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